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## REMARKS

### I. INTRODUCTION

The Office Action mailed June 20, 2003, rejected Claims 1-28. Applicants present the following arguments in support of original Claims 1-28. Applicants note that although the Office Action Summary refers only to Claims 1-25, the body of the Office Action addresses Claims 1-28.

Accordingly, Claims 1-28 are presently pending in this application.

Applicants respectfully request further examination and reconsideration of the application in view of the foregoing amendments and the following arguments.

### II. REJECTION OF CLAIMS 1-2, 14-15, AND 24-25 UNDER 35 U.S.C. § 102(e)

Claims 1-2, 14-15, and 24-25 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,426,632 entitled Method And Apparatus For Testing an AFCI/GFCI Circuit Breaker by *Clunn* et al. (hereinafter "*Clunn*")

Applicants respectfully traverse the rejection under 35 U.S.C. § 102(e). *Clunn* does not disclose or suggest all of the limitations recited in the claims. In re Paulsen, 30 F.3d 1475, 1478-79, 31 U.S.P.Q.2d 1671 (Fed. Cir. 1994); Verdegaal Bros. v. Union Oil Co. of California, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1997) ("A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.").

As provided in Claim 1, Applicant's invention relates to providing "test signals to said "trip circuitry", as provided in Claim 14, Applicant's invention relates to "testing trip circuitry", and as provided in Claim 24, Applicant's invention relates to a "means for testing trip circuitry." In contrast, *Clunn* relates to "testing of the microprocessor control circuit 806 detection and trip functions."

Further, as provided in Claim 1, Claim 14, and Claim 24, Applicant's invention relates to a "test signal generator" that is incorporated within the body of the circuit breaker. In contrast, *Clunn* applies "a low voltage level and relatively low current level down one of the mains conductors (the neutral conductor 804, in this case) passing through the pair of of toroid transformers T1 and T2." [*Clunn*, col. 8, lines 43-47] Fig.

10A of *Clunn*, shows “the circuit breaker under test 1000” with an external test waveform generator in an external test circuit sending a signal into terminal 1004 [See e.g., Col. 9 lines 53-55] Thus, it appears that in *Clunn*, the test signal generator is not incorporated into the circuit breaker. Consistent with this, *Clunn* further provides that: “It will be appreciated that this test may be performed on a fully assembled circuit breaker 800 with the built-in power and both toroid transformers (T1 and T2) in place.” [*Clunn*, col. 8, lines 47-50] Thus it is the “power and both toroid transformers (T1 and T2)” in *Clunn* that are built into the circuit breaker, not the “test signal generator” of Applicant’s invention. *Clunn* fails to overcome all of the disadvantages of portable test units. For instance, portable test units “must be purchases, maintained and stored when not in use”, “must be carried with a technician to the site of the circuit breaker to be tested,” and “must be hardwired through a non-standard connection cable to the circuit breaker.” [See e.g. Application, paragraph 0016]

Because *Clunn* fails to expressly or inherently anticipate each and every element as set forth in the Claims, including a test signal generator that is incorporated in a circuit breaker for providing test signals to trip circuitry, *Clunn* fails to anticipate the present invention. Further for the reasons stated, *Clunn* also fails to teach or suggest the claim limitations of Applicants invention, or provide motivation for such a modification or combination. Applicants submit that the rejection of independent Claims 1, 14, and 24 under 35 U.S.C. § 102(e) is improper and requests that the rejection be withdrawn. Applicants submit that Claims 2, 15, and 25 are patentable as further limitations of independent Claims 1, 14, and 24.

Applicants respectfully submit that the rejection of Claims 1-2, 14-15, and 24-25 under 35 U.S.C. § 102(e) as being anticipated by *Clunn* has been overcome. Accordingly, Applicants request withdrawal of the rejection and allowance of Claims 1-2, 14-15, and 24-25.

III. REJECTION OF CLAIMS 3-6, 10, 16, 18, 26, 28 UNDER 35 U.S.C. § 103(a) OVER *CLUNN* IN VIEW OF *SAITO*

Claims 3-6, 10, 16, 18, 26, 28 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over *Clunn* in view of *Saito* et al. (US Patent No. 6,301,674 B1 hereinafter "*Saito*").

"Patent examiners carry the responsibility of making sure that the standard of patentability enunciated by the Supreme Court and by the Congress is applied in each and every case." MPEP § 2141 (emphasis in original).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations.

MPEP § 2143.

Applicants respectfully traverse the rejection of Claims 3-6, 10, 16, 18, 26, 28 under 35 U.S.C. § 103(a). Applicants submit that the rejection of Claims 3-6, 10, 16, 18, 26, 28 under 35 U.S.C. § 103(a) is improper because there is no suggestion or motivation to modify or combine the teachings of *Clunn* and *Saito*, nor is there any indication of a reasonable expectation of success, nor do the prior art references, when combined, teach or suggest all of the claim limitations.

Applicants repeat the statements with respect to the rejection of independent Claims 1, 14 and 24 under 35 USC 102(e), here with respect to rejection of dependant Claims 2-13, 15-23, and 25-28 under 35 U.S.C. § 103 over *Clunn* in view of *Saito*.

Further, *Saito* does not relate to testing unit for a circuit breaker. *Saito* appears to relate to a home appliance "power consumption measuring system" in which "digital data is transmitted among the electric apparatuses connected to the power line 102, with the power line 102 used as media." It appears that *Saito* is directed to pre-empting the breaker apparatus function of stopping the power supply as "a sum of the second power consumption and the first power consumption of the power line is compared with the predetermined maximum consumable power of the power line, and it is determined

whether the second power consumption by the electric apparatus is permissible. A result of the determination is told to the electric apparatuses.” [*Saito*, Abstract]. Thus, *Saito* is directed to a different purpose than Applicant’s invention.

The Office Action cites Fig. 27 and col. 4, lines 48-61 of *Saito* for the proposition that *Saito* discloses a “power consumption measuring system having a standard interface connected to the microprocessor for connecting to a corresponding standard interface including IEEE 1394, RS 232, etc. on a general purpose computing device.” However, Fig. 27 of *Saito* relates to an internet connection to an “attribute server 6105” [also shown in Fig. 23 of *Saito*] and, indirectly, a “controller 6503”, where the controller relates “attributes of information of the electric apparatus connected to the breaker” [Col. 22, line 18-24] As shown in Fig. 23 and elsewhere in of *Saito*, the “attribute server 6105” and the “electrical apparatus” of *Saito* are external to the breaker [Col. 22, line 18-24] The Office Action also cites col. 4, lines 48-61 of *Saito* briefly describing Figs 8-12 in the Brief Description of Drawings. Here again, *Saito* refers to “electrical apparatus” which receive “power use request” messages via the power line 102. No portion of *Clunn* or *Saito* cited by the Office Action appears to teach or suggest the combination of Applicant’s invention as provided by Applicants in Claims 2-6, 10, 16, 18, 26 and 28.

Given the nature of *Clunn* (having an external test signal generator) and *Saito* (generally a home appliance power consumption measuring system with an internet connection to devices external to a circuit breaker), it is not correct to say that “a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying *Clunn* by employing the well known or conventional features of a network such as disclosed by *Saito* for constructing a network of electric devices which are conventionally used separately, and managing and controlling these devices by standard interfaces” as claimed by Applicants in Claims 3-6, 10, 16, 18, 26, and 28. [Office Action, page 4, fourth paragraph]

Together, *Clunn* and *Saito* fail to teach or suggest all of the claim limitations of Applicant’s invention. Further, nothing cited in the Office Action provides any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify either reference or to combine reference teachings. If the Examiner maintains this position, Applicants

respectfully request that the Examiner furnish a basis for the stated motivation. MPEP 2144.03; In re Lee, 277 F.3d 1338, 1343-44 (Fed. Cir. 2002).

For the reasons stated, Applicants respectfully submit that the rejection of Claim 3-6, 10, 16, 18, 26, and 28 under 35 U.S.C. § 103(a) over *Clunn* in view of *Saito* is improper. Accordingly, Applicants respectfully request that the rejection of Claims 3-6, 10, 16, 18, 26, 28 under 35 U.S.C. §103(a) be withdrawn and the claims allowed.

#### IV. REJECTION OF CLAIMS 7-9, 17 and 27 UNDER 35 U.S.C. § 103(a) OVER *CLUNN* IN VIEW OF *FRAISSE*

Claims 7-9, 17 and 27 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over *Clunn* in view of *Fraisie* et al. (US Patent No. 5,220,479 hereinafter "*Fraisie*").

Applicants respectfully traverse the rejection of Claims 7-9, 17 and 27 under 35 U.S.C. § 103(a). Applicants submit that the rejection of Claims 7-9, 17 and 27 under 35 U.S.C. § 103(a) is improper because there is no suggestion or motivation to modify or combine the teachings of *Clunn* and *Fraisie*, nor is there any indication of a reasonable expectation of success, nor do the prior art references, when combined, teach or suggest all of the claim limitations.

Applicants repeat the statements with respect to the rejection of independent Claims 1, 14 and 24 under 35 USC 102(e), here with respect to rejection of dependant Claims 7-9, 17 and 27 under 35 U.S.C. § 103 over *Clunn* in view of *Fraisie*.

Further, *Fraisie* appears to relate to a device adapted to adjust tripping thresholds. [*Fraisie*, Summary, col. 1, lines 61-62] *Fraisie* does not appear to relate to an apparatus or method for testing trip circuitry as claimed by Applicants in Claims 7-9, 17 and 27.

Together, *Clunn* and *Fraisie* fail to teach or suggest all of the claim limitations of Applicant's apparatus and method, including: a test signal generator incorporated in a circuit breaker for providing test signals to trip circuitry in combination with a wireless interface.

Further, nothing cited in the Office Action provides any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of

ordinary skill in the art, to modify either reference or to combine reference teachings. If the Examiner maintains this position, Applicants respectfully request that the Examiner furnish a basis for the stated motivation. MPEP 2144.03; In re Lee, 277 F.3d 1338, 1343-44 (Fed. Cir. 2002).

For the reasons stated, Applicants respectfully submit that the rejection of Claim 7-9, 17 and 27 under 35 U.S.C. § 103(a) over *Clunn* in view of *Fraisie* is improper. Applicants respectfully submit that the rejection is improper and request that the rejection of Claims 7-9, 17 and 27 under 35 U.S.C. § 103(a) be withdrawn, and the claims allowed.

V. REJECTION OF CLAIMS 11-13, 19-21, and 22-23 UNDER 35 U.S.C. § 103(a) OVER *CLUNN* IN VIEW OF *MURPHY*

Claims 11-13, 19-21, and 22-23 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over *Clunn* in view of *Murphy* et al. (US Patent No. 4,958,252 hereinafter "*Murphy*").

Applicants respectfully traverse the rejection of Claims 11-13, 19-21, and 22-23 under 35 U.S.C. § 103(a). Applicants submit that the rejection of Claims 11-13, 19-21, and 22-23 under 35 U.S.C. § 103(a) is improper because there is no suggestion or motivation to modify or combine the teachings of *Clunn* and *Murphy*, nor is there any indication of a reasonable expectation of success, nor do the prior art references, when combined, teach or suggest all of the claim limitations.

Applicants repeat the statements with respect to the rejection of independent Claims 1, 14 and 24 under 35 USC 102(e), here with respect to rejection of dependant Claims 11-13, 19-21, and 22-23 under 35 U.S.C. § 103 over *Clunn* in view of *Murphy*.

Further, *Murphy* appears to relate to a circuit breaker with replaceable rating plugs with a memory device which records operating data, which when removed can be read by a portable reader. *Murphy* does not appear to relate to an apparatus or method for testing trip circuitry.

Together, *Clunn* and *Murphy* fail to teach or suggest: a test signal generator incorporated in a circuit breaker for providing test signals to trip circuitry, in combination with: a switch between the trip circuitry and the test signal generator, as in Claims 11, 19,

21, and 22; nor in combination with a receptacle forming a gap in connection between the trip circuitry and the test signal generator, as in Claims 12, 20, and 23, nor where the key is a rating plug as in Claim 13.

Further, nothing cited in the Office Action provides any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify either reference or to combine reference teachings. If the Examiner maintains this position, Applicants respectfully request that the Examiner furnish a basis for the stated motivation. MPEP 2144.03; In re Lee, 277 F.3d 1338, 1343-44 (Fed. Cir. 2002).

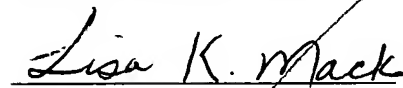
For the reasons stated, Applicants respectfully submit that the rejection of Claim 11-13, 19-21, and 22-23 under 35 U.S.C. § 103(a) over *Clunn* in view of *Murphy* is improper. Applicants respectfully submit that the rejection is improper and request that the rejection of Claims 11-13, 19-21, and 22-23 under 35 U.S.C. §103(a) be withdrawn, and the claims allowed.

With respect to references serving as a basis of rejection under 35 U.S.C. §102(e) and 35 U.S.C. §103, Applicants reserve the right to swear behind the reference(s). V.

#### CONCLUSION

For the above cited reasons, the drawings, specification, and all of the claims presently pending in this application are believed to be allowable. Accordingly, Applicants respectfully request allowance of the application. If the Examiner has any further questions or concerns, the Examiner is invited to contact the Applicants' undersigned attorney.

Respectfully submitted,



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## EXHIBIT A

A CLEAN VERSION OF EACH PENDING "NEW", "ORIGINAL",  
"PREVIOUSLY PRESENTED", AND "WITHDRAWN" CLAIM NOT BEING  
CURRENTLY AMENDED FOLLOWS:

What is claimed is:

1. (Original) A circuit breaker comprising:  
trip circuitry;  
a microprocessor; and  
a test signal generator incorporated in said circuit breaker for providing  
test signals to said trip circuitry under control of said microprocessor.
2. (Original) The circuit breaker of claim 1, wherein said test signal  
generator comprises either a current source, a voltage source or both for generating said  
test signals.
3. (Original) The circuit breaker of claim 1, further comprising a standard  
interface connected to said microprocessor for connecting to a corresponding standard  
interface on a general purpose computing device.
4. (Original) The circuit breaker of claim 3, wherein said standard interface  
is a USB interface.
5. (Original) The circuit breaker of claim 3, wherein said standard interface  
is an IEEE 1394 interface.
6. (Original) The circuit breaker of claim 3, wherein said standard interface  
is an RS232 interface.
7. (Original) The circuit breaker of claim 1, further comprising a wireless  
interface connected to said microprocessor.

8. (Original) The circuit breaker of claim 7, wherein said wireless interface is a radio frequency transceiver.

9. (Original) The circuit breaker of claim 7, wherein said wireless interface is an infra-red transceiver.

10. (Original) The circuit breaker of claim 1, further comprising a network interface connected to said microprocessor for connecting said microprocessor to a data network.

11. (Original) The circuit breaker of claim 1, further comprising at least one switch in a connection between said trip circuitry and said test signal generator, said switch being controlled by said microprocessor, said switch being open when said trip circuitry is not being tested so as to prevent erroneous test signals from causing a response by said trip circuitry.

12. (Original) The circuit breaker of claim 1, further comprising:  
a receptacle forming a gap in a connection between said trip circuitry and said test signal generator; and  
a key for insertion in said receptacle to bridge said gap allowing communication between said trip circuitry and said test signal generator.

13. (Original) The circuit breaker of claim 12, wherein said key is a rating plug.

14. (Original) A method of testing a circuit breaker comprising testing trip circuitry of said circuit breaker with test signals generated with a test signal generator that is incorporated in said circuit breaker.

15. (Original) The method of claim 14, wherein said testing further comprises generating either a current or a voltage test signal with a current source or a voltage source of said test signal generator.

16. (Original) The method of claim 14, further comprising controlling said testing with a general purpose computing device connected to said circuit breaker through a standard interface.

17. (Original) The method of claim 14, further comprising controlling said testing with a general purpose computing device communicating with said circuit breaker through a wireless interface.

18. (Original) The method of claim 14, further comprising controlling said testing through a network to which said circuit breaker is connected via a network interface.

19. (Original) The method of claim 14, further comprising preventing erroneous test signals from causing a response by said trip circuitry with at least one switch in a connection between said trip circuitry and said test signal generator, said switch being controlled so as to be open when said trip circuitry is not being tested.

20. (Original) The method of claim 14, further comprising enabling said testing by inserting a key in a receptacle forming a gap in a connection between said trip circuitry and said test signal generator, said inserted key bridging said gap thereby allowing communication between said trip circuitry and said test signal generator.

21. (Original) The system of claim 14, further comprising means for preventing erroneous test signals from causing a response by said trip circuitry.

22. (Original) The system of claims 21, wherein said means for preventing erroneous test signals from causing a response by said trip circuitry comprise a switch in

a connection between said trip circuitry and said test signal generator, said switch being controlled so as to be open when said trip circuitry is not being tested.

23. (Original) The system of claim 21, wherein said means for preventing erroneous test signals from causing a response by said trip circuitry comprise a key for insertion in a receptacle that forms a gap in a connection between said trip circuitry and said test signal generator, said key, when inserted, bridging said gap thereby allowing communication between said trip circuitry and said test signal generator.

24. (Original) A system for testing a circuit breaker comprising  
first means for generating test signals, said first means being incorporated  
in said circuit breaker; and  
second means for testing trip circuitry of said circuit breakers with said  
test signals.

25. (Original) The system of claim 24, wherein said first means further  
comprise means for generating either current or voltage test signals or both.

26. (Original) The system of claim 24, further comprising means for  
controlling said testing with a general purpose computing device connected to said circuit  
breaker through a standard interface.

27. (Original) The system of claim 24, further comprising means for  
controlling said testing with a general purpose computing device communicating with  
said circuit breaker through a wireless interface.

28. (Original) The system of claim 24, further comprising means for  
controlling said testing through a network to which said circuit breaker is connected via a  
network interface.